

WHAT IS CLAIMED IS:

1. An electronic device functioning as a telephone, comprising: a display portion; an audio input portion; an audio output portion; and operation keys;

wherein:

the display portion has active elements;

the operation keys have LEDs; and

the direction of an image displayed by the LEDs is switchable.

2. An electronic device according to claim 1, wherein the active element has EL or liquid crystals.

3. An electronic device functioning as a telephone, comprising: a display portion; an audio input portion; an audio output portion; and operation keys;

wherein:

the display portion has EL elements;

the operation keys have liquid crystals; and

the direction of an image displayed by the liquid crystals is switchable.

4. An electronic device functioning as a telephone, comprising:

a first panel having: one of an audio input portion and an audio output portion; and a display portion;

a second panel having: one of an audio input portion and an audio output portion; and operation keys;

wherein:

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

the display portion has EL elements;

the operation keys have LEDs; and

the direction of an image displayed by the LEDs is switchable.

5. An electronic device functioning as a telephone, comprising:

a first panel having: one of an audio input portion and an audio output portion; and a display portion;

a second panel having: one of an audio input portion and an audio output portion; and operation keys;

wherein:

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

the display portion has EL elements;

the operation keys have liquid crystals; and

the direction of an image displayed by the liquid crystals is switchable.

6. An electronic device functioning as a telephone, comprising:

a first panel having: one of an audio input portion and an audio output portion; and a display portion;

a second panel having: one of an audio input portion and an audio output portion; and operation keys;

wherein:

A1
the display portion has EL elements;
the operation keys have LEDs;
the first panel and the second panel are connected;
the angle between the first panel and the second panel can be arbitrarily changed;
5 the direction of an image displayed by the LEDs is switchable in accordance with the
angle between the first panel and the second panel.

7. An electronic device functioning as a telephone, comprising:

10 a first panel having: one of an audio input portion and an audio output portion; and a
display portion;

a second panel having: one of an audio input portion and an audio output portion; and
operation keys;

wherein:

the display portion has EL elements;

15 the operation keys have liquid crystals;

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

the direction of an image displayed by the liquid crystals is switchable in accordance with
the angle between the first panel and the second panel.

20 8. An electronic device functioning as a telephone, comprising:

a first panel having: one of an audio input portion and an audio output portion; and a
display portion;

a second panel having: one of an audio input portion and an audio output portion; and

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operation keys;

wherein:

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

5 the display portion has a plurality of pixels;

the plurality of pixels each have: a photodiode; an EL element; a switching TFT; an EL driver TFT; a reset TFT; a buffer TFT; and a selection TFT;

the switching TFT and the EL driver TFT control light emission from the EL element;

10 light emitted from the EL elements is reflected upon a subject and irradiated onto the photodiodes;

the photodiodes, the reset TFTs, the buffer TFTs, and the selection TFTs generate an image signal from the light irradiated onto the photodiodes;

the operation keys have LEDs; and

the direction of an image displayed by the LEDs is switchable.

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9. An electronic device functioning as a telephone, comprising:

a first panel having: one of an audio input portion and an audio output portion; and a display portion;

a second panel having: one of an audio input portion and an audio output portion; and

20 operation keys;

wherein:

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

the display portion has a plurality of pixels;

the plurality of pixels each have: a photodiode; an EL element; a switching TFT; an EL driver TFT; a reset TFT; a buffer TFT; and a selection TFT;

the switching TFT and the EL driver TFT control light emission from the EL element;

light emitted from the EL elements is reflected upon a subject and irradiated onto the photodiodes;

the photodiodes, the reset TFTs, the buffer TFTs, and the selection TFTs generate an image signal from the light irradiated onto the photodiodes;

the operation keys have liquid crystals; and

the direction of an image displayed by the liquid crystals is switchable.

10. An electronic device according to any of claims 1 to 9, wherein:

the EL elements each have an anode, a cathode, and an EL layer formed between the anode and the cathode; and

the external quantum efficiency of the EL layer is equal to or greater than 10%.

11. An electronic device according to any of claims 1 to 10, wherein the strength of light emitted by the EL elements is equal to or greater than 251 m/W.

12. An electronic device functioning as a telephone, comprising: a display portion; an audio input portion; an audio output portion; and operation keys;

wherein:

the display portion have first EL elements;

the operation keys have second EL element; and

the direction of an image displayed by the second EL elements is switchable.

13. An electronic device functioning as a telephone, comprising:

a first panel having: one of an audio input portion and an audio output portion; and a display portion;

5 a second panel having: one of an audio input portion and an audio output portion; and operation keys;

wherein:

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

10 the display portion has first EL elements;

the operation keys have second EL elements; and

the direction of an image displayed by second EL elements is switchable.

14. An electronic device functioning as a telephone, comprising:

15 a first panel having: one of an audio input portion and an audio output portion; and a display portion;

a second panel having: one of an audio input portion and an audio output portion; and operation keys;

wherein:

20 the display portion has first EL elements;

the operation keys have second EL elements;

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed; and

the direction of an image displayed by second EL elements is switchable in accordance

with the angle between the first panel and the second panel.

15. An electronic device functioning as a telephone, comprising:

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5 a first panel having: one of an audio input portion and an audio output portion; and a display portion;

a second panel having: one of an audio input portion and an audio output portion; and operation keys;

wherein:

the first panel and the second panel are connected;

10 the angle between the first panel and the second panel can be arbitrarily changed;

the display portion has a plurality of pixels;

the plurality of pixels each have: a photodiode; a first EL element; a switching TFT; an EL driver TFT; a reset TFT; a buffer TFT; and a selection TFT;

15 the switching TFT and the EL driver TFT control light emission from the first EL element;

light emitted from the first EL elements is reflected upon a subject and irradiated onto the photodiodes;

the photodiodes, the reset TFTs, the buffer TFTs, and the selection TFTs generate an image signal from the light irradiated onto the photodiodes;

20 the operation keys have second EL elements; and

the direction of an image displayed by the second EL elements is switchable.

16. An electronic device according to any of claims 12 to 15, wherein:

the first EL elements each have an anode, a cathode, and an EL layer formed between the

anode and the cathode; and

the external quantum efficiency of the EL layer is equal to or greater than 10%.

17. An electronic device according to any of claims 12 to 16, wherein the strength of light
5 emitted by the first EL elements is equal to or greater than 251 m/W.

18. An electronic device according to any of claims 12 to 17, wherein:

the second EL elements each have an anode, a cathode, and an EL layer formed between
the anode and the cathode; and

10 the external quantum efficiency of the EL layer is equal to or greater than 10%.

19. An electronic device according to any of claims 12 to 18, wherein the maximum value of the
strength of light emitted by the second EL elements is equal to or greater than 251 m/W.

20. An electronic device according to any of claims 1 to 19, wherein the electronic device has a
15 CCD light receiving portion.

21. An electronic device according to claim 20, wherein an image is taken in as electronic data in
the CCD light receiving portion.

22. An electronic device according to any of claims 1 to 21, wherein:

the display portion has a touch panel; and

an image written into the touch panel is read in as electronic data.

23. An electronic device functioning as a telephone, comprising:

a first panel having: one of an audio input portion and an audio output portion; and a display portion;

a second panel having: one of an audio input portion and an audio output portion; and operation keys;

wherein:

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

the display portion has EL elements;

the operation keys have LEDs;

the direction of an image displayed by the LEDs is switchable; and

the direction of an image displayed by the EL elements and that of the image displayed by LEDs are the same at all times.

24. An electronic device functioning as a telephone, comprising:

a first panel having: one of an audio input portion and an audio output portion; and a display portion;

a second panel having: one of an audio input portion and an audio output portion; and operation keys;

wherein:

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

the display portion has EL elements;

the operation keys have liquid crystals;

the direction of an image displayed by the liquid crystals is switchable; and
the direction of an image displayed by the EL elements and that of the image displayed by
liquid crystals are the same at all times.

5 25. An electronic device functioning as a telephone, comprising:

A) a first panel having: one of an audio input portion and an audio output portion; and a
display portion;

a second panel having: one of an audio input portion and an audio output portion; and
operation keys;

10 wherein:

the display portion has EL elements;

the operation keys have LEDs;

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

15 the direction of an image displayed by the LEDs is switchable in accordance with the
angle between the first panel and the second panel; and

the direction of an image displayed by the EL elements and that of the image displayed by
LEDs are the same at all times.

20 26. An electronic device functioning as a telephone, comprising:

a first panel having: one of an audio input portion and an audio output portion; and a
display portion;

a second panel having: one of an audio input portion and an audio output portion; and
operation keys;

wherein:

the display portion has EL elements;

the operation keys have liquid crystals;

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

the direction of an image displayed by the liquid crystals is switchable in accordance with the angle between the first panel and the second panel; and

the direction of an image displayed by the EL elements and that of the image displayed by liquid crystals are the same at all times.

27. An electronic device functioning as a telephone, comprising:

a first panel having: one of an audio input portion and an audio output portion; and a display portion;

a second panel having: one of an audio input portion and an audio output portion; and operation keys; and

a means of recognizing an angle between the first panel and the second panel,

wherein:

the display portion has EL elements;

the operation keys have LEDs;

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

the direction of an image displayed by the LEDs is switchable in accordance with the angle between the first panel and the second panel.

28. An electronic device functioning as a telephone, comprising:

a first panel having: one of an audio input portion and an audio output portion; and a display portion;

a second panel having: one of an audio input portion and an audio output portion; and

operation keys; and

A' a means of recognizing an angle between the first panel and the second panel,

wherein:

the display portion has EL elements;

the operation keys have LEDs;

10 the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

the direction of an image displayed by the LEDs is switchable in accordance with the angle between the first panel and the second panel; and

15 the direction of an image displayed by the EL elements and that of the image displayed by LEDs are the same at all times.

29. An electronic device functioning as a telephone, comprising:

a first panel having: one of an audio input portion and an audio output portion; and a display portion;

20 a second panel having: one of an audio input portion and an audio output portion; and operation keys; and

a means of recognizing an angle between the first panel and the second panel,

wherein:

the display portion has EL elements;

A)
the operation keys have liquid crystals;

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

the direction of an image displayed by the liquid crystals is switchable in accordance with

5 the angle between the first panel and the second panel.

30. An electronic device functioning as a telephone, comprising:

a first panel having: one of an audio input portion and an audio output portion; and a display portion;

10 a second panel having: one of an audio input portion and an audio output portion; and operation keys; and

a means of recognizing an angle between the first panel and the second panel,

wherein:

the display portion has EL elements;

15 the operation keys have liquid crystals;

the first panel and the second panel are connected;

the angle between the first panel and the second panel can be arbitrarily changed;

the direction of an image displayed by the liquid crystals is switchable in accordance with the angle between the first panel and the second panel; and

20 the direction of an image displayed by the EL elements and that of the image displayed by liquid crystals are the same at all times.